

a first switching circuit having 2^x first switching elements wherein each one of 2^x first switching elements is electrically connected to each one of the $(2^x + 1)$ gradation voltage lines;

a first output line electrically connected to the first switching circuit;

a second switching circuit having 2^x second switching elements wherein each one of 2^x second switching elements electrically connected to each one of $(2^x + 1)$ gradation voltage lines; and

a second output line electrically connected to the second switching circuit;

a second D/A conversion circuit comprising:

2^y resistor elements connected in series between the first output line and the second output line;

a third switching circuit having 2^y third switching elements coupled to each other via the 2^y resistor elements;

a third output line electrically connected to the third switching circuit; and

a forth switching element electrically connected to the second and third output lines,

wherein x and y are natural numbers which satisfy $x + y = n$.

17. (New) A circuit according to claim 16, wherein the D/A conversion circuit is manufactured on an insulating substrate by using a plurality of thin film transistor.

18. (New) A circuit according to claim 16, wherein the D/A conversion circuit is utilized in any one of a video camera, a digital camera, a goggle-type display, a car navigation system, a personal computer, a DVD player, and a portable information terminal.

19. (New) A D/A conversion circuit for supplying a gradation voltage corresponding to n -bit digital signal (n is a natural number that is equal to or larger than 2), comprising:

a first D/A conversion circuit comprising:

$(2^x + 1)$ gradation voltage lines;

b) a first switching circuit having the 2^x first switching elements wherein each one of 2^x first switching elements is electrically connected to each one of 1st line to (2^x) th line of the $(2^x + 1)$ gradation voltage lines;

a first output line electrically connected to the first switching circuit;

a second switching circuit having the 2^x second switching elements wherein each one of 2^x second switching elements electrically connected to each one of 2nd line to $(2^x + 1)$ th line of the $(2^x + 1)$ gradation voltage lines; and

a second output line electrically connected to the second switching circuit;

a second D/A conversion circuit comprising:

2^y resistor elements connected in series between the first output line and the second output line;

a third switching circuit having 2^y third switching elements coupled to each other via the 2^y resistor elements;

a third output line electrically connected to the third switching circuit; and

a forth switching element electrically connected to the second and third output lines,

wherein x and y are natural numbers which satisfy $x + y = n$.

20. (New) A circuit according to claim 19, wherein the D/A conversion circuit is manufactured on an insulating substrate by using a plurality of thin film transistor.

21. (New) A circuit according to claim 19, wherein the D/A conversion circuit is utilized in any one of a video camera, a digital camera, a goggle-type display, a car navigation system, a personal computer, a DVD player, and a portable information terminal.

22. (New) A D/A conversion circuit for supplying a gradation voltage corresponding to n-bit digital signal (n is a natural number that is equal to or larger than 2), comprising:

a first D/A conversion circuit comprising:

$(2^x + 1)$ gradation voltage lines;

a first switching circuit having 2^x first switching elements wherein each one of 2^x first switching elements is electrically connected to each one of the $(2^x + 1)$ gradation voltage lines;

a first output line electrically connected to the first switching circuit;

a second switching circuit having 2^x second switching elements wherein each one of 2^x second switching elements electrically connected to each one of $(2^x + 1)$ gradation voltage lines; and

a second output line electrically connected to the second switching circuit;

a second D/A conversion circuit comprising:

2^y resistor elements connected in series between the first output line and the second output line;

a third switching circuit having 2^y third switching elements coupled to each other via the 2^y resistor elements; and

a third output line electrically connected to the third switching circuit;

wherein x and y are natural numbers which satisfy $x + y = n$.

23. (New) A circuit according to claim 22, wherein the D/A conversion circuit is manufactured on an insulating substrate by using a plurality of thin film transistor.

24. (New) A circuit according to claim 22, wherein the D/A conversion circuit is utilized in any one of a video camera, a digital camera, a goggle-type display, a car navigation system, a personal computer, a DVD player, and a portable information terminal.

25. (New) A D/A conversion circuit for supplying a gradation voltage corresponding to n-bit digital signal (n is a natural number that is equal to or larger than 2), comprising:

a first D/A conversion circuit comprising:

$(2^x + 1)$ gradation voltage lines;

a first switching circuit having the 2^x first switching elements wherein each one of 2^x first switching elements is electrically connected to each one of 1st line to (2^x) th line of the $(2^x + 1)$ gradation voltage lines;

a first output line electrically connected to the first switching circuit;

a second switching circuit having the 2^x second switching elements wherein each one of 2^x second switching elements electrically connected to each one of 2nd line to $(2^x + 1)$ th line of the $(2^x + 1)$ gradation voltage lines; and

a second output line electrically connected to the second switching circuit;

a second D/A conversion circuit comprising:

2^y resistor elements connected in series between the first output line and the second output line;

a third switching circuit having 2^y third switching elements coupled to each other via the 2^y resistor elements; and

a third output line electrically connected to the third switching circuit;

wherein x and y are natural numbers which satisfy $x + y = n$.

26. (New) A circuit according to claim 25, wherein the D/A conversion circuit is manufactured on an insulating substrate by using a plurality of thin film transistor.

27. (New) A circuit according to claim 25, wherein the D/A conversion circuit is utilized in any one of a video camera, a digital camera, a goggle-type display, a car navigation system, a personal computer, a DVD player, and a portable information terminal.

28. (New) A D/A conversion circuit for supplying a gradation voltage corresponding to n-bit digital signal (n is a natural number that is equal to or larger than 2), comprising:

b) a first D/A conversion circuit comprising:

($2^x + 1$) gradation voltage lines;

a first switching circuit having 2^x first switching elements wherein each one of 2^x first switching elements is electrically connected to each one of the ($2^x + 1$) gradation voltage lines;

a first output line electrically connected to the first switching circuit;

a second switching circuit having 2^x second switching elements wherein each one of 2^x second switching elements electrically connected to each one of ($2^x + 1$) gradation voltage lines; and

a second output line electrically connected to the second switching circuit;

a second D/A conversion circuit comprising:

2^y resistor elements connected in series between the first output line and the second output line;

a third switching circuit having 2^y third switching elements coupled to each other via the 2^y resistor elements;

a third output line electrically connected to the third switching circuit;

a forth switching element electrically connected to the second and third output lines, and

a buffer circuit electrically connected to the third output line,

wherein x and y are natural numbers which satisfy $x + y = n$.

29. (New) A circuit according to claim 28, wherein the D/A conversion circuit is manufactured on an insulating substrate by using a plurality of thin film transistor.

30. (New) A circuit according to claim 28, wherein the D/A conversion circuit is utilized in any one of a video camera, a digital camera, a goggle-type display, a car navigation system, a personal computer, a DVD player, and a portable information terminal.

b) 31. (New) A D/A conversion circuit for supplying a gradation voltage corresponding to n-bit digital signal (n is a natural number that is equal to or larger than 2), comprising:

a first D/A conversion circuit comprising:

$(2^x + 1)$ gradation voltage lines;

a first switching circuit having the 2^x first switching elements wherein each one of 2^x first switching elements is electrically connected to each one of 1st line to (2^x) th line of the $(2^x + 1)$ gradation voltage lines;

a first output line electrically connected to the first switching circuit;

a second switching circuit having the 2^x second switching elements wherein each one of 2^x second switching elements electrically connected to each one of 2nd line to $(2^x + 1)$ th line of the $(2^x + 1)$ gradation voltage lines; and

a second output line electrically connected to the second switching circuit;

a second D/A conversion circuit comprising:

2^y resistor elements connected in series between the first output line and the second output line;

a third switching circuit having 2^y third switching elements coupled to each other via the 2^y resistor elements;

a third output line electrically connected to the third switching circuit;

a forth switching element electrically connected to the second and third output lines, and

a buffer circuit electrically connected to the third output line,

wherein x and y are natural numbers which satisfy $x + y = n$.

b) 32. (New) A circuit according to claim 28, wherein the D/A conversion circuit is manufactured on an insulating substrate by using a plurality of thin film transistor.

33. (New) A circuit according to claim 28, wherein the D/A conversion circuit is utilized in any one of a video camera, a digital camera, a goggle-type display, a car navigation system, a personal computer, a DVD player, and a portable information terminal.
